USAWC MILITARY STUDIES PROGRAM PAPER

CRISIS DECISION-MAKING: THE IMPACT OF COMMERCIAL SATELLITES ON THE MEDIA, MILITARY AND NATIONAL LEADERS

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by

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ABSTRACT

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SCENARIO 1999

It was the worst crisis since WW11. The world was in a state of chaos. Uncertainty ,fear and tension gripped the world. A week ago on Dec 4,1999,the U.S. had launched an invasion of Cuba and Nicaragua. The U.S. military was on full alert.It appeared the crisis would soon involve the superpowers in a war that would destroy the earth. Everyone was glued to their TV sets watching live coverage of the fighting.

Technology had truly provided the media with powerful capabilities that were directly affecting the crisis to a degree not imagined by anyone. In fact, it seemed that the media, with its technical electronic information gathering capabilities and instantaneous world wide exposure, was the only organization capable of providing the structured framework for ending the crisis. On the other hand, many in the government and the military felt that the media had caused the situation to get out of control in the first place. After all, the media with its instantaneous live TV, real-time photos from their own observation satellites, coupled with their instant analysis and detailed forecasting of what would happen next was crippling the ability of national decision-makers and the military to conduct their business in a

controlled atmosphere.

Initially, the decision by President Quayle to invade these two countries had received support from most Americans. They had become frustrated at the nation's inability to solve major problems during the past decade. The war on drugs had failed. The deficit had not been reduced. Most of the countries in Central and South America had found democracy too difficult to sustain because of their economic problems, overpopulation,and political corruption. They were in a state of anarchy. Cuba and Nicaragua had expanded their subversion throughout Latin America and now possessed military capabilities that threatened the U.S. Intelligence reports concluded that they had obtained nuclear and chemical weapons. In quick succession, both Latin American countries announced their cooperation and support for an alliance with the major drug cartels and terrorists, whose stated purpose was the destruction of the U.S. On Thanksgiving day, terrorists assassinated three U.S. senators and a female justice of the Supreme Court along with their entire families as they gathered for their holiday meal. That same day Nicaraguan forces invaded Honduras and El Salvador and declared their intention to take over these countries. Past frustrations and the magnitude of the perceived threat to the U.S. prompted a quick U.S. retaliation.

World public opinion did not favor the U.S. invasion. The International Space Media Network was focusing all of its technical assets on the battlefield and was providing satellite photographs of the area of operation in great detail. The U.S. news media had

become critical of the military and national authorities as the conflict continued. The hope for quick victory was not in sight and public support in the U.S. had begun to weaken. The military and the media were no longer cooperating, so an unhealthy adversarial relationship had developed. The U.S. was losing the public opinion war. More importantly, both Castro and Ortega were winning the public opinion war that was being fought on TV screens around the world. American public opinion, its center of gravity, was being masterfully attacked in the media war by experts of the two communist countries. Battlefield victories claimed by the U.S. didn't seem to provide the advantage expected.

What was happening? Why did our national leaders and the military fail to recognize that new technologies had changed the way their jobs would be conducted? Indeed, technology had outrun policies and procedures. The old ways of doing business were no longer possible.

The purpose of this paper is to address the potential effects of information obtained by commercial satellites on decision making during a national crisis. Effects on government and military decision-makers will be examined from a historical standpoint as well as in a hypothetical scenario. Even though the U.S. media industry has begun to speculate on the potential political, ethical and philosophical impact of their increasing satellite-based power to gather information and shape world opinion, our national military leadership has to date shown little interest in the matter.

We will begin with a look at the situation as it exists today: What constitutes a "crisis"? How could media-controlled satellites influence a crisis? What legal issues are unresolved regarding these satellites? These will be examined and discussed. The paper will then discuss the technology available today and predict its future development. It will examine how these capabilities will affect the media and the military. Finally I hope to provide some possible solutions to this problem. If we do not address these problems today, they will be more difficult to resolve in the future when we are in the midst of a crisis. Hopefully, we can break the tradition of waiting for events to occur before we decide to take actions that would have influenced them to our advantage if taken earlier.

THE SITUATION: 1989

The accident at the Chernobyl Nuclear Power Plant in the Soviet Union provides a vivid illustration of how a developing technology is making it much more difficult for governments to control information. Pictures from a commercial French satellite helped to break the secrecy surrounding this incident. These pictures were shown around the world, so the Soviet Union had to react differently to this crisis than was their initial intent. The revolution in communications and computer optics technology has spawned a growth in products that are just entering the commercial

marketplace. This technology signals a new era; it raises many policy issues and questions for our national leaders. Information obtained from satellite photos could have a dramatic effect on how decisions are made during a crisis. In fact,the superpowers' ability to maintain secrecy during a crisis will be thwarted if access to what was previously considered sensitive information becomes readily available to anyone willing to pay for it. Future crises will be influenced by the information flow and the by brokers of this information.

Understanding the nature of a crisis is the first step in determining what effects commercial satellites could have upon the outcome. Crisis situations seem to have some common characteristics. As the situation unfolds there appears to be a unique structure to the policy making group that is involved in the decision-making. Surely, numerous dramatic terms like "ambiguous," "unexpected," "dangerous," and "fast-breaking," serve to describe a typical crisis. In fact, there is a wealth of written material regarding crises and decision making, yet there are few clear cut prescriptions for managing crises. However, according to Michael Nacht, certain criteria tend to differentiate a crisis from "business as usual.":

1. Key decision-makers believe that time is short. Then the decision maker concludes that the situation is so urgent that his attention to it cannot be diverted from it, so it takes precedence over all other concerns.

2. The value of specialized expertise rises dramatically. The

ability of an individual or technology to provide crucial information becomes extremely important during a crisis. Photos of a potential military target, such as the location of a hostage site, become key to the decision making process. If this information can be obtained from satellites, then anyone with such information can have an important impact on the conduct of the crisis.

3. Ad hoc groups are recruited to deal with the special situation. Routine procedures are insufficient. The Cuban Missile Crisis and the Iran Hostage Crisis provide recent examples of a president forming special groups to deal with the crisis.

4. A small number of players tend to assume responsibility for evaluating on-going events. In a crisis, decision making and access to information tends to be centralized in a small group. The normal bureaucracy is too large and cumbersome to cope with a time sensitive crisis.

5. There is a strong sense that decisions arrived at during a crisis will carry great significance. The players think that the decisions made will have significant short and long-term importance. Precedents will be set which will influence diplomatic relationships and the prestige of the country. The state of affairs will be forever changed. Future events will be influenced by decisions made during the crisis.[1]

Most of these characteristics have been evident in the crises that the U.S. has dealt with during the past two decades. There is no reason to believe that future crises will be any different.

The duration of a crisis will determine the impact that commercial satellites will have on the situation. Generally, the longer the crisis,the larger the impact that information from commercial sources will have on the decision making process. However, a brief crisis could still be subject to intense outside influence. For example, the Cuban Missile Crisis is generally considered to be a short crisis since it took place over a thirteen day period. The photos of the missiles in Cuba were available only to the U.S. Thus Kennedy and his advisors had precious time to sort out the situation without the pressure that would have been brought to bear had the presence of these missiles been known by the general public. Initially, only a few privileged individuals in Kennedy's crisis management cell were aware of the crisis. However, other people outside of this cell eventually became aware of critical information through various means. For example, President Charles DeGaulle learned of the missile deployment through a diplomat in Cuba; Senator Keating of New York became aware of the missiles and could have gained politically by reporting their existence. Several others outside the crisis management cell became involved in the decision-making process, including John Scali of ABC News and Max Frankel of the New York Times.[2] Fortunately, none of these players intervened in a manner that hindered crisis management. But they could have. It is naive to expect that persons with knowledge of sensitive information regarding a crisis will always chose to remain quiet. Political opponents of the President, foreign governments(friendly and hostile), the media(U.S. and

foreign), and even members of Congress may seek to become involved in the decision-making in some way. Their access to critical information enhances their capability to involve themselves in the decision-making process.

A crisis which extends over a longer period of time is historically more likely than shorter ones. A slowly developing situation which includes many players outside the government becomes increasingly difficult to manage as more of those players become involved. The Iran Hostage Crisis took place over a 444 day period with all sorts of people playing roles. So President Carter's management became a frustrating, complex, unwieldy process. Pressure was increasingly exerted from various constituencies throughout the crisis. Information which was supposedly relevant to the crisis was plentiful and frequently counter-productive to a rational resolution of the issues. Too much information clouded the crisis, so it became very difficult to identify genuine signals from the principals. Gary Sick, who was a member of the NBC staff during the crisis,noted that "Throughout the crisis, there was the problem of distinguishing genuine messages and interlocutors from those who were self-appointed 'messengers of good will,' entrepreneurs seeking to turn the crisis into fame or fortune for themselves, or representatives of a political faction among the many in Tehran."[3]

Pressure from the media intensified during this crisis. The continuous drumbeat and focus of the evening news on the crisis riveted the attention of the public. Ultimately Carter felt

compelled to order a rescue attempt. The hostage crisis contained all of the factors that we ha2ve witnessed in the past. Bureaucratic conflicts within the government were rampant, particularly between the NSC and the State Department. Covert negotiations, political misunderstanding and ignorance all added to the noise and confusion. The concern for secrecy and leaks had a large impact on many decisions. The whole crisis was characterized by a series of unpredictable events, making it extremely difficult to maintain a rational focus on the best long term policy while staving off momentary rumors, distractions,and intrusions.

Now let's consider how commercial satellites could influence a situation like the hostage crisis. Photos of sensitive training sites frequently used by Special Operations forces could provide information which indicated the existence of a plan, the forces involved , the state of training and a general concept of operations for a rescue attempt. This information, if made public would probably force cancellation of the mission because surprise would be lost. Even if the deployment of the rescue force went undetected, photos of the aircraft that was surveying and actually landing at the site at Desert One a few days prior to the operation could have compromised the operation if they became public. It is also likely that if commercial satellites were taking photos of the U.S. Embassy and providing them to the media, they would certainly focus attention on the facility as news commentators speculated as to the location of the hostages and how the military might rescue

them. This attention would cause the captors to be more attentive and aware of potential rescue attempts and certainly cause them to increase their defenses or even move the hostages to different locations. Thus, the availability of commercial photos would complicate the crisis and have a significant impact on it.

Commercial satellites have demonstrated that their product can influence decision-makers even in the absence of a crisis. The Space Media Network, established in 1985 in Sweden, has produced over 20 stories using photographs from a commercial French satellite named Systeme Pour d'Observation de la Terre(SPOT),mostly involving the Soviet Union. These stories have had a definite political effect. For example: pictures taken of the Soviet nuclear test site at Semipalatinsk resulted in a tour of the facility; photos of a Soviet submarine base and the Krasnoyarsk radar site also resulted in tours of these facilities. Photos of the SDI research facility were published shortly before General Secretary Gorbachev acknowledged to U.S. newsman Tom Brokaw on national TV that the Soviets did indeed have their own SDI program. Previously they had denied the existence of a program!

The U.S. news media have also been increasing their use of commercial satellite photos. ABC news has been in the forefront of this effort. Besides photos of the Soviet Union they have used material for stories on the Iran-Iraq war, Libyan missile sites and Iranian Silkworm missile sites in the Straits of Hormuz.(See Appendix 1 for a listing of some uses of remote sensing imagery by the media.)

crisis? First, they will greatly increase the number of players who might influence the decision-making. This number could far exceed the number that the President would like to have in the crisis management structure. These players could disrupt(accidentally or intentionally) diplomatic efforts based on knowledge they obtain from commercial satellite photos. So crisis control by the President would be difficult as information inputs expanded. In a sense,"outsiders" could use their photos as their ticket of admission to the crisis management arena. Their influence would be dependent in part on the timeliness of their information. We certainly cannot assume that all "outsiders" will possess friendly motives; in fact, some will most likely be enemies. The sheer volume of information will also complicate the process and make it difficult to separate the critical elements of information, and focus on substantiated data.

In the U.S., issues such as freedom of the press, first amendment rights, and executive-congressional relations could collide with national security considerations. Thus, substantial legal and even moral issues would be joined with major foreign policy considerations.[4]

It is obvious that a crisis situation is ripe for exploitation by those who possess satellite photos. Technological advances will increase even further the impact that satellites will have on a crisis.

TECHNOLOGY: CURRENT AND FUTURE

On February 26,1986, an Ariane rocket lifted the French SPOT satellite into orbit. With its 10 meter resolution it could provide photos to anyone willing to buy them. Resolution refers to the size of an object that can be recognized when viewing the photo. These relatively high resolution photos were now available for various uses by countries who previously had no access to this information because of the monopoly held by the U.S. and the U.S.S.R. Thus the veil of superpower monopoly of satellite reconnaissance had been lifted and the politics of observation satellites had changed. The U.S. sponsored Landsat, managed by the commercial company EOSAT, had been providing photos to commercial users and the U.S. Government. Now they had competition in the marketplace. Indeed, SPOT provided higher quality photos and was gearing up to launch even more sophisticated satellites, while EOSAT was losing governmental subsidies. In fact, some U.S. governmental agencies are contracting to buy images from SPOT Image, the marketing company for images from the SPOT satellite. In 1987 the DIA signed a $10 million contract with SPOT Image to obtain photos. Another interesting and unexpected development has occurred in the marketplace. Now a Soviet trade organization, Soyuzkarta, has joined the competition, offering 5 meter resolution photos for sale to the public. Ironically, the U.S. Geological Survey and the Defense Mapping Agency are interested in acquiring 5 meter images sold by Soyuzkarta through its U.S. marketing representative, ContiTrade. Other countries are joining the market. Canada, India,

Japan, China, Brazil and Italy are all planning their own satellite systems.[5]

Many users seek satellite information. Currently over 100 different customers purchase SPOT and EOSAT pictures worldwide. One can only speculate on these customers' uses for this information. Undoubtedly their uses include commercial as well as military applications. This situation raises some interesting questions regarding the market during a crisis. Would the highest bidder get priority? Could one customer exclude an adversary from obtaining photos? Would government pressure influence who received photos or what photos a customer could obtain? Would a country suffer a lack of diplomatic clout if it didn't have satellite photos? The possibilities for third party countries with satellite capabilities to influence a crisis between the superpowers are worrisome, yet perhaps unavoidable!

The U.S. should be concerned about losing the technological edge that it has enjoyed. Foreign countries are now marketing products with higher resolution. However, the commercial competitiveness of U.S. Satellites is not one of the central issues in this paper. Even so,changes in U.S. policy toward the development of commercial satellites are needed if the U.S. is to stay ahead. Current evidence indicates that we are failing to adjust to emergent technical realities. Technology is improving so fast that each generation of satellites is vastly superior to its predecessors. Additionally, this technology is spreading throughout the world and cannot be controlled by any single country. The U.S.

military spy satellites are still superior to any others; however, we will not maintain this edge if the U.S. loses in the competitive commercial market. Technological advances result from R@D, investment and a desire to remain number one.

In 1978, President Carter signed a classified National Security Directive(NSD) which restricted the resolution of U.S. commercial satellites to 10 meters. He sought to insure that commercial capabilities would not threaten our military systems and to allay political concerns of other countries regarding the security of their homeland. Nobody realized at the time that a competitive commercial market would develop in less than 10 years. President Reagan announced a new space policy in June 1988; it allowed a 5 meter resolution on future commercial satellites in the U.S. The Government retains control of commercial satellite specifications through regulatory authority in the Commerce Department and the National Oceanographic and Atmospheric Administration (NOAA). Licensing regulations require NOAA to consult with the State and Defense Departments on matters affecting national security and foreign policy interests. Thus, both State and Defense have a veto over systems that have national security implications. Every request for a license to launch a commercial satellite will be treated on a case by case basis. So we can easily see why a commercial developer would be concerned about developing a high resolution capability if he might not be able to get a license due to national security concerns. Important legal concerns have been raised regarding these regulations primarily because

there is no precise definition of national security. The media has challenged these regulations on the basis of First Amendment rights. I will discuss the legal issues in more detail later.

The current technical capabilities of commercial satellites do not allow for photos to be routinely taken and provided to the customer in a timely manner. A request is submitted and the satellite owner then schedules the photos for when the satellite passes over the requested part of the earth. Information is then transmitted to ground stations, where it is subsequently transmitted to processing centers. This procedure routinely takes several weeks, depending on the length of the waiting list and orbits of the satellite. In contrast, military satellites provide virtual real-time information. Existing commercial systems also do not provide extremely high resolution, because these capabilities are very expensive and have been unnecessary in meeting the needs of the traditional purchasers of this data. Another potential limitation is that access to data cannot be assured because the satellite companies currently depend on ground stations owned by other countries.(See Appendix 2. for a depiction of ground stations.)

In my view, commercial satellites or a mediasat will eventually provide very high resolution, real-time global coverage and assured access to data. The technology exists today; when the market for it is assured, commercial satellite entrepreneurs will acquire what they need. The photos will have a spacial resolution of less than 8 inches. Remote, man-packed portable receiving

stations will enable field users, like the media, to observe on small hand-held screens images transmitted from the satellites. These remote users will also have the ability to transmit commands to the satellite, giving guidance and scanning instructions as it passes over a specific area. A mediasat would also be able to serve as a platform for a communications transceiver which would provide the media with their own independent world-wide communications system. This would provide them unhindered access to communications that they currently do not have. As a result, it would be impossible to restrict or censor media communications because they would own the system. The potential impact of such media capabilities on future military operations is truly significant.

Additionally, all new technologies have unanticipated side effects. Experience tells us that every time a significant technological advance is made, its early planned use either becomes secondary or gets lost in the huge quantity of additional applications that develop. It is even possible that the mediasat data market will not be the news divisions but secondary markets. World-wide value added companies will purchase data from the media and develop uses that are totally unforeseen at this time. Congressmen Robert Walker (Rep., Pennsylvania) and George Brown, Jr. (Dem., California) in a September 12, 1986, "Dear Colleague" letter, agree: "What we are witnessing is a revolution in possibilities for the news media...The legal, economic, political, and security issues raised by advancing satellite technologies will certainly gain increased attention in the years ahead."[6]

LEGAL ISSUES

"In the eyes of the Founders, the press was to serve the governed,not the governors...The press was protected so that it could bare the secrets of government and inform the people." Such views fuel a great deal of controversy surrounding the legal ramifications of a satellite owned and used by the media.

As mentioned previously, current Department of Commerce regulations set forth broad ill-defined "national security" grounds for enacting prohibitive limits on commercial satellites and sweeping powers to seize information and revoke licenses of violators. These regulations provide support for Lee Bollinger's statement that " New technologies of communication are both new battlegrounds for renewed fighting over old first amendment issues and focal points for reform efforts."[8] Many legal experts maintain that these regulations violate the first amendment.

The courts have said that the gathering of news is entitled to some protection under the first amendment, but they have not clearly defined exactly what activities qualify for protection. What is clear, however, is that the restrictions that have been upheld have been concerned with the circumstances surrounding the gathering--the extent to which it imperils reporter's safety, for example--rather than the content of the news gathered. The press can even be restrained, in certain circumstances, from covering military operations, where considerations of secrecy and safety so

dictate, or from travelling to restricted countries, although the validity of travel restrictions has been questioned.[9]

Nonetheless, the Supreme Court recognizes that the press does have a right of access to newsworthy information, although it has not completely clarified the boundaries of that right. In cases where the court has restricted the press from gathering news, it has usually done so in response to a clear cut and immediate threat to order or security. The court has, by contrast, never declared a novel newsgathering technology off limits solely because of the information it might reveal. Since the satellite is essentially nothing more than a sophisticated version of a hand held camera, which has long been used by the press, the current satellite regulations most probably cannot withstand constitutional scrutiny in light of the first amendment.[10]

Several first amendment principles are in conflict with the regulations. Under the prior restraint doctrine, the government may not restrain most expression prior to its dissemination, even though that expression could be subject to punishment after dissemination. It assumes that prior restraints are more harmful to free speech than subsequent civil or criminal punishment. An example of this doctrine in recent times came in New York Times v.United States, where the Supreme Court vacated an injunction prohibiting the New York Times from publishing the national security-sensitive "Pentagon Papers."[11] Historic analysis regarding the harm to national security that resulted from the publication of the Papers shows that their were virtually no ill effects.

Despite this principle, the Commerce Department currently is allowed to deny a permit or license before any photographs have been taken. This in essence is prior restraint.

Another objection in this regard is that the regulations are unconstitutional because they leave too much discretion in the hands of NOAA officials. The Supreme Court has held that, on a number of occasions, a regulation affecting first amendment rights will be invalidated when the ordinance does not provide explicit standards for those who apply it. The current regulations do not define those "national security" issues that warrant denial of a license. They leave the judgement to NOAA and the Secretaries of Defense and State.[12]

To date, a number of media groups have suggested detailed revisions to the regulations. The Radio and Television News Directors Association recommend that only information akin to "the sailing dates of ships or the number and location of troops" will be withheld from publication. Thus only during periods of active or imminent hostilities will the government be permitted to block publication. In my opinion, current regulations are legally and practically unworkable. They leave too much room for interpretation. In light of anticipated proliferation of technology in the future, they will become moot.

Additional legal questions exist and must be resolved if we are going to preclude chaos and paralysis in future crises. A more detailed discussion of other legal issues is beyond the scope of this paper. Overshadowing this whole debate is the specter of other

countries, or international media organizations using satellites totally outside the boundaries of U.S. law.

MEDIASAT: SECURITY AND STRATEGIC IMPLICATIONS

Tensions are certain to develop between this nation's commitment to freedom of the press and its commitments to preserve national security and carry on foreign policy. As Paul B. Stephens framed the problem. " In a robustly pluralistic society such as ours, free speech is easy to accept and to enjoy,and in a hostile, potentially lethal international environment such as the one in which we live,national security seems a fundamentally worthwhile pursuit. The difficulty lies in making tradeoffs."[3]

In 1987, several members of Congress directed the Office of Technology Assessment to conduct a study and report on the implications of Commercial Newsgathering from Space. The report was published in May 1987. It dealt with many issues. Five national security concerns were highlighted by the study. First was a concern that, without adequate oversight of a mediasat, the media might disclose information concerning military operations that would result in casualties or frustrate U.S. objectives. Disclosure by the media of information concerning troop movements, shipment of material, etc., could deprive the military of the element of surprise. Some in the media, on the other hand, argue that the media's past record on such matters is a good one. They maintain that where lives were at stake or serious national security issues

were in question, the media has acted responsibly. Critics of the media argue that such restraint has not always been the case. To complicate the matter, information obtained from a mediasat would pose serious security problems for the media itself. Unfortunately, the media does not have an institutionalized, regulated, internal system to protect sensitive information.

A second concern was that foreign governments might retaliate against the U.S. because of disclosures by the media. There can be no doubt that certain foreign governments use the U.S. media as pawns in their struggle with the U.S. Taking media hostages in Beirut is a good example. Even relatively friendly governments might retaliate by expelling diplomats or closing U.S. bases should the press reveal information that embarrassed or threatened the national security of those nations. However, eventually this issue may diminish as technology proliferates information about every other country. It will simply become an accepted fact that must be tolerated. Innovative shrewd-thinking governments will no doubt be able to exploit this technology.

A third concern of the report has already been discussed: the potential for losing control during a crisis. The fourth concern was the fear that these satellites might provide valuable intelligence to third parties.

The final concern was the danger of media misinterpretation of data.[14] Strong pressures to beat the competition and break the news could result in inaccurate reporting and conceivably precipitate a crisis. For example, one expert recently wrote that

"Several networks showed SPOT photos of the Soviet nuclear proving grounds at Semipalatinsk and claimed that the Soviets were preparing to resume nuclear testing. They showed photos of what was described as a drill site. Looking at the photo, any competent imagery analyst would have pointed out that the arrangement and cable scars terminating at the site would have proved that it was not a drill site, but rather an instrumentation site, common to all nuclear proving grounds.[15] Similar media misinterpretation on more serious issues could seriously disrupt international affairs.

The role the media play in relations with the government has been discussed already in terms of crisis management. Even so, we should note that both parties need each other. The government must use the media to get its story out, even though there is a certain mistrust of the media. The media depend on the government for much of its information and subject matter. The media--or Fourth Estate, as it has become known--views itself as an objective purveyor of facts. It is after the truth as a matter of principle. It assumes the public's right to know inherent in our democracy. The government, while not denying the public's right to truth, may not always want certain truths published during a particular phase of a crisis. This is the area where conflict arises. Additionally, both sides frequently fail to appreciate their differing perspectives: both have different agendas. Conflicts between the media and government are certainly not a recent phenomenon. The media have received a great deal of scorn over the years--sometimes deserved, other times not. Several recent surveys of the degree of

deserved, other times not. Several recent surveys of the degree of confidence or respect the public has for various professions show that the media are not held in high esteem by many Americans. Apparently, many people would not quarrel with a 1889 statement made by Lord Curzon of Kedleston, House of Commons:1898, "I hesitate to say what the function of the modern journalist may be; but I imagine they do not exclude the intelligent anticipation of facts even before they occur."[16]

Perhaps there is no other segment of our society that is more suspicious of the media than the military. Some of today's generation of senior officers frequently decry the destructive role the media has played, particularly in Vietnam. This antagonism is nothing new in our military history. During the Civil War, General William Tecumeseh Sherman was always battling the newspapermen, whose stories he believed, were killing his soldiers. Sherman believed that far more harm than good was done the Union cause by war correspondents. They were " dirty newspaper scribblers who have the impudence of Satan." They were "spies, defamers and infamous lying dogs," according to Sherman.[17] Hopefully, Sherman's views represent the extreme and not the norm.

My purpose is not to determine who is right or to pass judgement on the media or the military. But, without doubt,there is a history of an adversarial relationship. This doesn't mean that there have not been instances of good relations between the two. My opinion is that this has been the norm rather than the exception--at least among the responsible, professional segments

newsgathering and reporting which will not only affect the "traditional relationship" but will have a dramatic affect on how both sides conduct their business.

SCENARIO 1999(continued..).

The evening news carried the usual detailed summary and analysis of the fighting. The news was not good. Cuban military resistance had virtually disappeared, yet the expected political ends had not been achieved. Castro had fled the island; however, he was continuing the fight on the world's TV screens. Using satellite photos as evidence, he pointed out the terrible destruction the U.S. forces inflicted. Innocent civilians were needlessly killed, hospitals and schools were damaged, and U.S. soldiers were committing torture and other atrocities. Castro was resurrecting latent anti-American sentiment in Latin America. Additionally, he was convincing the rest of the world that the imperialist U.S. was a menace to peace.

The situation in Nicaragua was different. The Sandinista forces had avoided large scale battles. They were now hiding in the mountains. They continued to wage effective terrorist activities and conduct successful attacks on U.S. military bases

Ortega was always surrounded by the media, including American reporters. He was a clever politician, a superb military tactician and a historian. His favorites, no doubt, included Clausewitz and Sun Tzu. Ortega's battle strategy was focused on the mind of his

enemy; victory would be won this way. His activities were totally staged for the benefit of the TV screens of the world. Every move was calculated to upstage the U.S. in the transparency war. Pictures were worth a thousand words. And he used satellite photos like a virtuoso.

The media had a free run of the countries involved. Their mediasat was indeed a powerful tool. In fact, it was locating key military targets as fast as the military satellites could. Computer enhanced media photos provided pictures in 3-D which far surpassed the technique used in the 1988 Calgary olympics. Viewers were able to literally fly and survey the terrain exactly as it appeared to a pilot flying over the area--all of this simulated through satellite photos and computers. Technology had really brought the foxhole to the living room. Actually it was not only the living rooms, it was everywhere! TV screens were in automobiles, public transportation and even on people's wrists. Everyone was tuned in.

Competition among the media had become fierce. Reporters had drifted from objectivity to sensationalism. Those professionals who maintained their objectivity were losing the Nielsen rating's war. Too many of the press became critics and analysts. They were more interested in their own agenda than the truth.

The military was frustrated. Too much control and guidance was coming from Washington. It seemed that the administration was becoming paralyzed because of its inability to make decisions. In the war zone U.S. commanders were also surrounded by the media.

It finally became obvious to U.S. strategists that the war on

the TV screens must be played by the military. Castro and Ortega needed to be countered. U.S. commanders, from the lowest level up to the generals, were being interviewed on TV. Initially, they had complained about the media and the way they were handling the information that satellites brought them. They thought that the media was publishing information that made it difficult to achieve tactical surprise and deception. They didn't like seeing the enemy commanders on TV so often, because it eroded public support and caused morale problems for the soldiers in combat. The troops were beginning to question the wisdom of their leaders, both political and military. Even the commanders seemed affected. Tactical decisions seemed to be more and more concerned with how they would play on the nightly news analysis. Aggressive, risk-taking tactics were being replaced by timid, image-conscious decisions. Avoiding bad news rather than defeating the enemy became the norm in operational planning.

The military had not been restricted like they had been in Vietnam. But victory was just as elusive. What constituted winning anyway?

Reluctantly, U.S. officers entered the new battle ground, the world's TV sets. Interviews by Ted Koppel were being simultaneously broadcast with both the U.S. senior commander and Ortega.Talk about being eye-to-eye and inside the enemies' mind! Was this where the battle would be won? Was the skill and ability of U.S. officers to wage war on the TV screen directly with your enemy becoming more important than fire and maneuver? Was it ethical to deceive and not

be truthful in these circumstances? Technology was not supposed to affect warfighting this way. It was supposed to build more efficient warfighting capabilities, wasn't it? It seemed that the side who could process all of the available information bits quicker achieved a significant advantage, since it could then use and manipulate the data to the detriment of the enemy. Was this what they meant by getting inside the opponent's decision cycle? Was there a doctrine for this kind of warfare?

The questions and concerns that arise regarding the impact that mediasats might have on the battlefield are almost endless. I've mentioned a few. The challenge is to prepare ourselves ahead of time so that we don't discover this "new" battlefield too late! The year 1999 must not find us unprepared.

CONCLUSIONS AND RECOMMENDATIONS

The issues raised by this study seem to increase every time I contemplate the subject. While I have touched on a range of issues, there are many more which deserve attention and additional research. There are numerous issues of international importance. For example: use of commercial satellites for peacekeeping and arms control verification; international regulation of commercial satellites; U.N. regulation or accords on satellite use; the vulnerability of satellites to anti-satellite weapons in a crisis. The marketplace will certainly develop numerous commercial value added businesses. Are there national security concerns in this

regard? Will our individual privacy be threatened by this technology as it becomes more sophisticated? Such potential issues as these will surely arise. There will certainly be more issues in the future.

There can be no doubt that commercial satellites, particularly mediasat, will affect the way national leaders, the military and the media conduct their business. The impact on crisis decision-making at the national level has already been felt and will certainly increase as technology provides new capabilities. The impact of a mediasat on future battlefields can be only speculative at this time. However, it seems obvious that there will be a dramatic effect on the military and the media. In this regard, I have intentionally focused on the negative aspects of this technology through my battlefield scenario in order to draw attention to the issue. I have no doubt that there will be positive results too.

Solutions to the legal problems surrounding commercial satellites and the media will ultimately be resolved in the courts. While I am not a legal expert, I think that there will be very few, if any, legal restrictions placed on the collection of information from a mediasat. Agreements between the media and affected parties will be the norm, rather than prohibitive laws. Any genuine resolution of the age-old problem regarding the press, national security and the First Amendment can only occur if the Congress tackles this sensitive issue and legislates some "rules." This action is not likely in today's environment.

If we can recognize future problems, are there some things we can do to prevent them? The answer to this is obviously yes, to some degree. But we must remember that there are genuine differences of perspective and roles regarding the military and the media. Understanding and appreciating these differences is the key for both sides. The solutions may not be perfect and agreement may be difficult, but it would be irresponsible to ignore the problem.

In order to solve some of the problems discussed we should focus our efforts in two general areas. First, the training that the military conducts must prepare leaders to operate in a mediasat environment. Secondly, the military and the media need to work harder at gaining a better understanding of each other. Training in military educational institutions and in the field must emphasize the importance of the image that leaders will portray. We must be historians who understand not only the successful tactics of previous battles but the mental edge that commanders can achieve over the enemy. Understanding the nature of psychological warfare in a world-wide information glut is essential. Intelligence sources must provide in-depth information on how the enemy leaders think and speak in public. These will be important consideration when developing strategy for the battlefield and on the TV screen. Politically astute, intelligent officers who can quickly adapt to the pressures of the media and the enemy on live TV will have an edge. The commander who recognizes the importance of public opinion and considers it in his tactics will reap rewards.

The importance of Public Affairs Officers(PAO's) will increase

significantly. While they have always been important, they will take on critical roles in the future. Their skills and relationship with the media will be extremely important. PAO's must be chosen wisely. They must be trained to operate and understand the ramifications of technology and its impact on tactics, decision-making and reporting. PAO's must be visible and involved in providing input to operational plans. Commanders, however, must recognize that the most effective PAO is the commander himself.

For some, it may be easy to dismiss the notion that military officers will find themselves involved in fighting a war and appearing on TV opposite the enemy. I believe it would be foolhardy to do so.

Ethical issues could become a problem for the military officer on TV facing the enemy. Is it okay to lie, deceive and misrepresent the facts in order to gain an advantage over the enemy on TV and the battlefield? What about the public? They are watching on TV too! I don't have the answers to these questions. This issue needs the thoughtful analysis and review of senior officers. The Army War College would be a suitable forum.

Both the military and the media need to better understand each other. Military schools need to increase their training in this regard and encourage more interface with the media. Conversely, the media needs to do a better job in understanding the military. Too few reporters today have taken the time to educate themselves regarding the military. Media representatives should attend military schools. Military officers should attend media forums and

educational interfaces with applicable student organizations. After all, both sides are striving to insure that our democracy survives. National security and the peoples' right to know are not mutually exclusive! Particular attention should be paid to those media who are members of the media press pool that will accompany military forces during the initial phases of an operation. Training, exposure and unlimited interface with the military will better prepare them for their job. A better informed reporter who knows what to look for is going to benefit the military. Careful attention must be paid to insure that these media representatives do not give the appearance of being co-opted by the military. Their credibility will disappear if this happens.

How do we handle the information that the mediasat will provide? This is the toughest question. Somehow we need to develop some rules.

I believe it is in everyone's best interest to achieve a "compact" between the media and the military. This compact would identify selected areas or subjects that both sides agree would gravely harm military operations if published. Both sides must seek confidence with the other. These rules may always be in a state of flux and may never produce total agreement. Yet we need a start-up point. The key is that both sides work together. If this process breaks down, 1999 will be a disaster. The military-media discussion cannot be conducted in a vacuum. Leaders in government, business, and education must help stimulate debate in various forums on the serious issues that will arise. A thoughtful, futuristic analysis

of the implications of commercial satellites in the next ten years is needed before we stumble through future crises. We need to proceed with awareness and intelligence as we adjust to the capabilities and problems that technology will provide to those involved in a crisis.

ENDNOTES

1. Michael Nacht, Commercial Satellites and Crisis Decisions, Washington D.C. University of Maryland, 1988, p.4.

2. Ibid p. 10.

3. Gary Sick, All Fall Down: America's Tragic Encounter With Iran, New York, Random House, 1985, pp. 205-216.

4. Nacht, p. 21.

5. Colleen Driscoll Sullivan, Commercial Observation Satellite Project, Washington D.C.,Carnegie Endowment for International Peace, 1988, p.12.

6. J. David Patterson, The First Amendment in Space For The News Media and the Specter of Government Regulation, Washington D.C., Unpublished paper provided to author, 1989, p.9.

7. U.S. Laws, Statutes, etc., New York Times Co. v. United States, 403 U.S. 713,717, 1971, Black, J. concurring.

8. Lee Bollinger," Freedom of the Press and Public Access," 75 Michigan Law Review, 1976, p.24.

9. Robert P. Merges and Glenn Reynolds, "News Media Satellites and the First Amendment," Forthcoming in the High Technology Law Journal, University of California at Berkley, p.6.

10. Ibid. p.7.

11. U.S. Laws, Statutes,etc. New York Times Co. v. United States, 3 U.S. 713,717, 1971, Black,J. concurring.

12. Merges and Reynolds, p.6.

13. Paul B. Stephens, "The First Amendment and National Security," Center for Law and National Security, University of Virginia, vol. 1:2 May 1984 p.1.

14. U.S. Congress. Office of Technology Assessment, Commercial Newsgathering From Space, Washington, May, 1987, pp.30-33.

15. D.A. Brugioni, "Satellite Images on TV: The Camera Can Lie," Washington Post. 14 Dec. 1986 p.H1.

16. Patterson, p.1.

17. Joseph H. Ewing, "The New Sherman Letters," American Heritage, July/August, 1988, p.24.

According to Mark Brender, ABC News, Washington D.C. the following list comprises some of the uses of remote sensing imagery by the media:

-In April 1985, ABC News used Landsat imagery of the Iran-Irag border.

-On January 22,1986, ABC News used imagery of a military airfield and surface to air missile sites in Libya.

-On February 21, 1986, ABC News broadcast Landsat imagery of a naval facility at Murmansk in the Soviet Union.

-In April and May 1986, SPOT and Landsat imagery of Chernobyl was used by all the major networks and newspapers.

-On July 4, 1986, ABC News used SPOT imagery of New York harbor for part of the network's "Liberty Weekend" coverage.

-On August 4, 1986 ABC,CBS and CNN used SPOT imagery of the Soviet nuclear testing facility at Semipalantinsk. The story was reported without imagery by the New York Times.

-On August 25, 1986 ABC aired SPOT imagery of the Soviet space launch complex at Tyuratum and the New York Times published a story using the imagery.

-In its October 1986 issue,National Geographic Magazine used SPOT imagery of the Soviet cosmodromes at Plesetsk and Baikonur.

-On October 16, 1986, Swedish television used SPOT imagery in a story on Soviet submarine bases on the Kola Peninsula.

-On January 8,1987, ABC News used SPOT imagery of the Iran/Iraq war.

-On March 2, 1987, Aviation Week and Space Technology Magazine used SPOT imagery of Soviet naval and air bases.

-On April 2, 1987, ABC News broadcast SPOT imagery of the Krasnoyarsk radar facility . ABC verified that the facility violates the ABM treaty.

-On July 7, 1987, ABC used SPOT, Landsat and AVHRR(weather satellite) imagery of the Persian Gulf. It was the major media's first use of three dimensional perspective imagery.

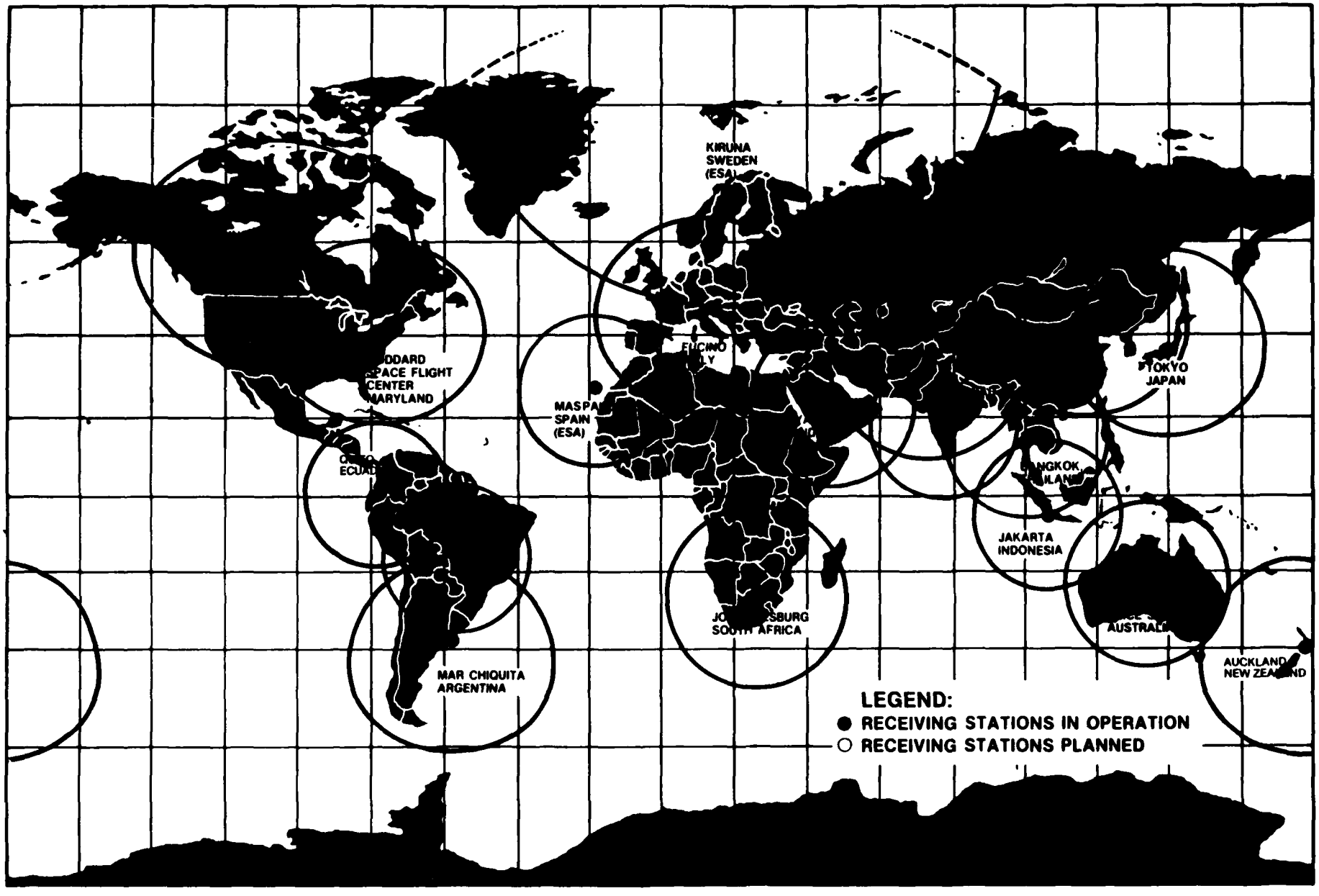
-On July, 1987, ABC News used SPOT imagery of suspected Iranian silkworm misssile sites on Qeshm Island in the Straits of Hormuz.

Appendix 1

Information in Appendix 2 was provided by Leonard S. Spector during a presentation he made during a conference on Security Uses of Commercial Remote Sensing Satellites at the Carnegie Endowment for International Peace, Wachington D.C. Jan. 9-11, 1989.

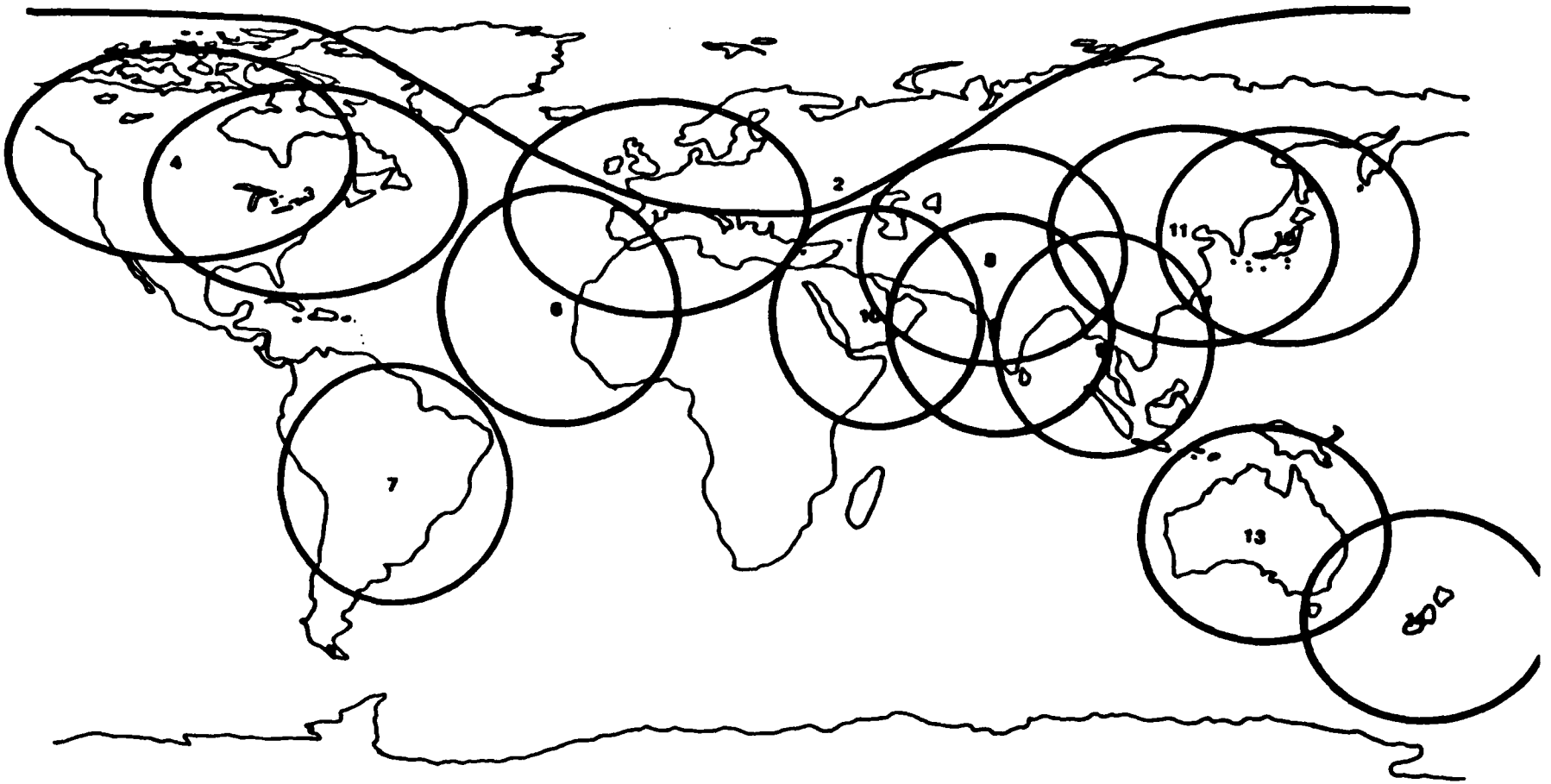
Appendix 2.

EOSAT LANDSAT 4/5 COVERAGE



Station	Date Established	Reception And Processing MSS	Reception And Processing TM	Status	Data Distribution Center
Argentina	Dec. 1980	X		Off-Line	Comision Nacional de Investigaciones Especiales (CNIE) Centro De Procesamiento, Avenue Dorrego 4010 1425 Buenos Aires, Argentina Tel.: 722-5108; Telex 17511 LANBA AR
Australia	Nov 1980	X		TM upgrade scheduled	Australian Center for Remote Sensing (ACRES) P.O. Box 28 Belconnen, ACT 2616, Australia Tel.: 062-52 4411; Telex 61510 ACRES AA
Brazil	May 1974	X	X	Operational	INPE-DGI Caixa Postal 01, Cachoeira Paulista, SP CEP 12630, Sao Paulo, Brazil Tel.: (125) 611507; PBX: (125) 611377 Telex: 1233562 INPE BR
Canada	Aug. 1972	X	X	Operational	Canada Centre for Remote Sensing (CCRS) 2464 Sheffield Road Ottawa, Ontario, Canada K1A OY7 Tel.: 613-952-2717; Telex: 0533777 CA
People's Republic of China	Dec. 1986	X	X	Operational	Academy of Sciences, Landsat Ground Station P.O. Box 2434, Beijing, China Tel.: 284861; Telex: 210222 RSGS CN
Ecuador	TBD		X	Scheduled Aug. 1989	CLIRSEN Edificio Instituto Geografico Militar Quito, Ecuador Tel.: (5932)542-758; Telex: 2775 CLRSN ED
ESA (3)	Nov. 1982				Eurimage Operations Office - ESRIN-CP64 Via Galileo Galilei 00044 Frascati, Italy Tel.: 39-6-9426285 or 39-6-9401218 Telex: 610637 ESRIN I EURIMAGE
Fucino	Apr. 1975	X	X	Operational	
Kiruna	Mar. 1983	X	X	Operational	
Maspalomas	Spring 1984	X	X	Seasonal operation	
India	Jan. 1980	X	X	Operational	National Remote Sensing Agency (NRSA) Department of Space, Balanagar Hyderabad - 500 037, Andhra Pradesh, India Tel.: 262572 X 62, 63, Telex 4256555 SITA IN
Indonesia	July 1982	X	X	Off-line TM upgrade announced	Indonesian National Institute of Aeronautics and Space (LAPAN) JL Pemuda Persil No. 1, P.O. Box 3048 Jakarta, Indonesia Telex: 49175 LAPAN IA
Japan	Jan. 1979	X	X	Operational	Remote Sensing Technology Center of Japan (RESTEC) Uni-Roppongi Bldg., 7-15-17 Roppongi Minato-Ku, Tokyo 106, Japan Tel.: TOKYO 3-403-1761; Telex: 2426780 RESTEC J
New Zealand	TBD		X	Scheduled mid-1989	Satellite Communications Services P.O. Box 5185, 75 Queen Street Auckland, New Zealand Tel.: (09) 389-653; Telex: WALWOR NZ 21437
Pakistan	TBD	X	X	Scheduled mid-1988	Pakistan Space and Upper Atmosphere Research Commission (SUPARCO) 43-1/P-6 Pecks, P.O. Box 3125, Karachi-Az, Pakistan Telex: 25720 SPACE PK
Saudi Arabia	Jan. 1987	X	X	Operational	King Abdulaziz City for Science & Technology P.O. Box 6086, Riyadh 11442, Saudi Arabia Tel.: 01-478-8000; Telex 201580 SJ
South Africa	Dec. 1980	X		Operational	National Institute for Telecommunications Research Attn: Satellite Remote Sensing Center, P.O. Box 3718 Johannesburg 2000, Republic of South Africa Tel.: 27-12-28-5271; Telex: 3-21005 SA
Thailand	Nov. 1981	X	X	TM Upgrade Completed	Remote Sensing Division National Research Council of Thailand (NRCT) 196 Phahonyothin Road, Bangkhen Bangkok 10900, Thailand Tel.: 5791370-9; Telex: 82213 NARECOU TH; Cable: NRC BANGKOK
United States	July 1972	X	X	Operational	Earth Observation Satellite Company (EOSAT) 4300 Forbes Blvd., Lanham, MD 20706 Tel.: (301) 552-0500 or 800-344-9933; Telex: 277685 LSAT UR

SPOT Receiving Station Network



Stations Currently Operational
1 Toulouse, France
2 Kiruna, Sweden
3 Gatineau, Canada
4 Prince Albert, Canada
5 Hyderabad, India
6 Maspalomas, Canary Islands

Under Construction
7 Cuiaba, Brazil
8 Islamabad, Pakistan
9 Bangkok, Thailand
10 Hatoyama, Japan

Under Negotiation
11 Beijing, China
12 Riyadh, Saudi Arabia
13 Alice Springs, Australia
14 Auckland, New Zealand

TABLE I

COMMERCIAL OBSERVATION SATELLITE GROUND STATIONS IN REGIONS OF TENSION

Ground-Station State	Landsat Station	SPOT Station*	Potential Adversaries Without Ground Stations that Ground-Station State Can Observe in "Near-Real" Time
Argentina	operat'g	--	Chile
Brazil	operat'g	under construction	Will be able to observe Argentina with SPOT; Argentina will have no SPOT station.
India	operat'g	operating	Pakistan**, Bangladesh, Nepal, Bhutan, Sri Lanka, People's Republic of China (mutual border areas). India not authorized to receive SPOT I images of these states.*
People's Republic of China	operat'g	under negotiation	Taiwan, North and South Korea, Vietnam (mutual border area)
Saudi Arabia	operat'g	under negotiation	Iran, Israel, Syria, Iraq
South Africa	operat'g	---	All states in the southern half of Africa
Thailand	operat'g	under construction	Vietnam, Cambodia, Laos, Malaysia, Burma, portions of Indonesia

* Some SPOT stations are not authorized to receive images of some of the areas noted; experts believe, however, that a ground station in such cases could illicitly receive and decipher images of unauthorized areas.

** In early 1989, Pakistan is expected to begin operating a Landsat ground station that will give it the ability to observe most of India.